

VOROB'YEV, Nikolay Nikolayevich; KOPYLOVA, A.N., red.; AKSEL'ROD,  
I.Sh., tekhn. red.

[Divisibility tests] Priznaki delimosti. Moskva, Fizmatgiz,  
1963. 70 p. (Populiarnye lektsii po matematike, no.39)  
(MIRA 17:2)

VOROB'YEV, N. M., Dr. Phys-Math Sci — (diss) "Randomized common actions  
in end plays," Leningrad, 1960, 13 pp, 260 cop. (Mathematics Institute im

V. A. Steklov, Department of Applied Mathematics. AS USSR) (KL, 42-60, 110)

VOROB'YEV, N.M.

ABRAMOV, S.A., inzhener; VOROB'YEV, N.M., inzhener; GLAGOLEV, M.M., doktor  
tekhnicheskikh nauk, professor; MERLIS, P.M., inzhener; MARGULIS,  
P.S., kandidat tekhnicheskikh nauk; RISKIN, I.V., inzhener;  
FUVRYAUSKIY, N.A., doktor tekhnicheskikh nauk, professor

Selecting types of diesels for projected diesel locomotives. Vest.  
TSNII MPS 16 no.2:11-18 Kr '57. (MLRA 10:4)  
(Diesel locomotives)

VOROB'YEV, N.N.

[Fibonacci's numbers] Chisla Fibonachchi. Moskva, Gos. izd-vo  
tekhniko-teoret.lit-ry, 1951. 46 p. (Populiarnye lektsii po ra-  
tematike, no.6)  
(Numbers, Theory of) (Fibonacci, Leonardo, fl.1220)

VOROB'YEV, N. N.

VOROB'YEV, N. N. -- "Constructive Calculus (Logic) of Propositions With Strong Negation." Sub 24 Apr 52, Mathematics Inst imeni V. A. Steklov, Acad Sci USSR. (Dissertation for the Degree of Candidate in Physico-mathematical Sciences).

SO: Vechernaya Moskva January-December 1952

VOROB'YEV, N. N.

USSR/Mathematics - Modern Algebra, 11 Apr 52  
Associative Systems

"Ideals" or Associate Systems," N. N. Vorob'yev  
"Dok Ak Nauk SSSR" Vol LXXXII, No 5, pp 641-643

As usual a set with one single-valued binary associative operation ("multiplication") is called an associative system. The subset T of system G is called its left ideal if GT is in T, and right ideal if TG is in T. The purpose of the current article is to expound certain results to L-systems (L-systems are so-called main left ideals; that is,

218053

USSR/Mathematics - Modern Algebra, 11 Apr 52  
Associative Systems (Contd)

sets of the form GX U X for a certain X in G).  
States that L-systems with unity cannot possess  
any augmentative elements. Submitted by Acad V. I.  
Smirnov 4 Feb 52.

218053

235T66

USSR/Mathematics - Symbolic Logic  
Propositional Calculus

21 Jul 52

"The Constructive Calculus of Propositions With  
Strong Negation," N. N. Vorob'yev

"Dok Ak Nauk SSSR" Vol 85, No 3, pp 465-468.

Considers certain properties of the propositional calculus with strong (constructive) negation, as defined by the usual axioms consisting of 21 tautological forms (e.g.,  $P \supset (Q \supset P)$ , etc.) and by the usual schema of inference. In particular, considers strongly equiv formulas, namely, where both  $P \equiv Q$  and  $\neg P \equiv \neg Q$  hold true simultaneously (designated by  $P \approx Q$ ).

Submitted by Acad V. I. Smirnov 12 May 52. 235T66

VOROB'YEV, N. N.

USSR/Mathematics - Symbolic Logic

1 AUG 52

"The Problem of Inferribility in the Constructive Calculus of Propositions With Strong Negation,"  
N.N. Vorob'yev

"Dok Ak Nauk SSSR" Vol. 85, No 4, pp 689-692

In a previous report ("Dok Ak Nauk SSSR" Vol. 85, No 3, 1952) the author derives several theorems concerning the constructive calculus of propositions with strong negation. In the current report the author gives an algorithm which permits one to develop formulas inferrible in this calculus and thus to distinguish them from noninferrible formulas. Submitted by Acad V.I. Smirnov

12 May 52.

22T55

Mathematical Reviews  
Vol. 14 No. 8  
Sept. 1953  
Algebra

8-10-54  
LL

Vorob'ev, N. N. **Associative systems of which every subsystem has a unity.** Doklady Akad. Nauk SSSR (N.S.) 88, 393-396 (1953). (Russian)

The author considers associative systems (i.e., semi-groups)  $\mathcal{G}$  such that every subsystem (i.e., subsemigroup) of  $\mathcal{G}$  contains a unity (two-sided identity element). He shows that a system  $\mathcal{G}$  has this property if and only if (1)  $\mathcal{G}$  is the class sum of mutually disjoint groups in each of which every element has finite order, and (2) the set of idempotent elements of  $\mathcal{G}$  is well-ordered by the division relation ( $E_1$  divides  $E_2$  if  $E_1E_1 = E_1E_2 = E_2$ ). From this and a theorem of the reviewer [Ann. of Math. (2) 42, 1037-1049 (1941); these Rev. 3, 199] it follows that the structure of such a system  $\mathcal{G}$  can be described explicitly [the semi-lattice  $P$  in the reviewer's Theorem 3 being in this case a well-ordered set]. This enables the author to describe the ideals and automorphisms of  $\mathcal{G}$ . A system  $\mathcal{G}$  in which every finitely generated subsystem of  $\mathcal{G}$  contains a unity is similarly characterized, the only change being to substitute "totally ordered" for "well-ordered" in (2). — A. H. Clifford.

1  
2

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860820015-0

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860820015-0"

VOROB'YEV, N.N.

Controlled processes and the theory of games. Vest.Len.un. 10  
no.11; 49 N '55. (MIRA 9:3)  
(Games, Theory of)

124-11-13019

Translation from: Referativnyy Zhurnal, Mekhanika, 1957, Nr. 11, p. 103 (USSR)

AUTHOR: Vorobyev, N. N.

TITLE: Flexure and Torsion of a Plane, Curved Beam of Small Curvature and with an Arbitrary Cross-Section. (Izgib ploskogo krivogo brusa maloy krivizny s proizvol'nym poperechnym secheniyem)

PERIODICAL: Nauch. tr. Novocherkassk! politekhn. in-ta., 1955, Vol 29 (43)pp 65-78

ABSTRACT: Calculation of beams having a small degree of curvature along a circular axis and a cross-section arbitrarily oriented with respect to the plane of curvature of the beam. External forces are assumed to be directed in an arbitrary manner, either as distributed loads or as concentrated forces. The case of a section oriented symmetrically relative to the plane of curvature is obtained as a special case from the general formulas. Castigliano's theorem is employed in the establishment of the fundamental differential equations. Six basic parameters, entering into the expressions of the internal forces and moments acting in any given section of the beam, are determined in each specific case from the boundary conditions. For a closed ring general formulas are set up to express these parameters in terms of

Card 1/2

*Novocherkassk Polytech. Inst., Chair Theoretical Mechanics*

124-11-13019

**Flexure and Torsion of a Plane, Curved Beam of Small Curvature and with an  
Arbitrary Cross-Section (continued).**

the external loads. Unfortunately, the Author does not adduce any examples to show how much more complicated a practical calculation becomes in the general case as compared to the solution of a beam having a symmetrical cross-section relative to the plane of curvature,

(N. L. Kuzmin)

Card 2/2

VORON'YEV, N.N.

Theory of ideals of associative systems. Uch.zap.Ped.inst. Gertu.  
103:31-73 '55. (Groups, Theory of) (MIRA 10:3)

VOROB'YEV, N. N.

Translation from: Referativnyy Zhurnal, Matematika, 1957, Nr 1, p. 21 (USSR) 44-1-161

AUTHOR: Vorob'yev, N. N.

TITLE: On the Canonic Representations of Elements of Symmetrical Association Systems (O kanonicheskikh predstavleniyakh elementov simmetricheskikh assotsiativnykh sistem)

PERIODICAL: Uch. zap. Leningr. gos. ped. in-ta, 1955, 103, pp. 75-82.

ABSTRACT: Let  $M$  be an arbitrary set. Semigroup  $C$  of all such mappings  $p$  (almost analogous substitutions) of the set  $M$  into itself; for which  $M-pM$  is a finite set, is examined. The number of elements of this set is called the defect of an almost identical substitution  $p$ . Let  $A$  be a subset of semigroup  $C$ , consisting of all transpositions and of one arbitrary fixed, almost identical substitution with a unit defect. Among different finite compositions of elements of set  $A$ , some special canonic compositions are of importance; it is proved that any element of semigroup  $C$  can be represented as one of these canonic compositions.

Ye. S. Lyapin

Card 1/1

VOROB'YEV, N.N.

Associative systems, any left ideal of which contains a unit element 1.  
Uch.zap.Ped. inst. Gorts. 103:83-90 '55. (MIRA 10:3)  
(Groups, Theory of)

HALD, Anders, 1913- : VOROB'YEV, N.N. [translator]; PETROW, V.V. [translator]; KHUSU, A.P. [translator]; LINNIK, Yu.V., redaktor

[Statistical theory with engineering applications. Translated from the English] Matematicheskaya statistika s tekhnicheskimi prilozheniiami. Perevod s angliiskogo N.N. Vorob'eva, V.V. Petrova i A.P. Khusu. Pod red. I.U.V.Linnika. Moskva, Izd-vo inostrannoi lit-ry, 1956. 664 p.

(Mathematical statistics)

(MIRA 10:3)

AUTHOR:

*Vorob'yev, N. N.*VOROB'YEV, N. N.

20-5-1/54

TITLE: Reduced Strategies for Games in a Generalized Form ( Redutsirovannyye strategii dlya igr v obobshchennoy forme)

PERIODICAL: Doklady Akad.Nauk SSSR., 1957, Vol.115, Nr.5, pp.855-857 (USSR)

ABSTRACT: The present paper is a generalization of some results of Kuhn  
Ref 17.

Let  $v_U$  denote an arbitrary alternative of the amount of information U. If in U the i-th player moves, then  $\mathcal{L}_i(U)$  denotes the family of all amounts of information V for which a)  $V \in \mathcal{U}_i$ ; b)  $V < U$ ; c) there exists no  $v_V$  for which  $U \subset D(V, v_V)$ . If X is a position and  $U < X$ , then let  $v_U^{(x)}$  be an alternative of U such that  $X \in D(U, v_U^{(x)})$ .

Theorem: Let X and V be positions for play being contained in U, let  $\pi_i$  be the strategy of the i-th player for which  $X \in \text{Poss } \pi_i$ . Then there exists a strategy of the i-th player  $\pi_i^*$  such that it is identical with  $\pi_i$  on all amounts of information of

CARD 1/3  $\mathcal{U}_i \setminus \mathcal{L}_i(U)$  and that for it  $V \in \text{Poss } \pi_i^*$ .

Reduced Strategies for Games in a Generalized Form

20-5-1/54

Let  $X$  be a position. Let  $\Omega_i^*(x)$  be the family of all amounts of information of  $\mathcal{U}_i$  which precede  $X$ . Let  $\mathcal{V} \subseteq \mathcal{U}_i$ . Let  $X \in \text{Poss } \pi_i$  if for every  $U \in \mathcal{V}$  there holds the relation  $\pi_i(U) = v_U^{(x)}$ .

Theorem: Let  $X \in U \in \mathcal{U}_i$  and  $X \leq Z$ . Let  $Y$  be the position nearest to  $X$  which follows  $X$  and precedes  $Z$ . Let  $V$  be the amount of information in which  $Y$  is contained. In order that

$$U \in \text{Rel } \pi_i, \quad \pi_i(U) = v_U^{(Z)}, \quad X \in \text{Poss}_{\Omega_i^*(X) \cap \mathcal{U}_i(U)} \pi_i$$

holds for an arbitrary  $\pi_i$  it is necessary and sufficient that

$$V \in \text{Rel } \pi_i, \quad Y \in \text{Poss}_{\Omega_i^*(Y) \cap \mathcal{U}_i(V)} \pi_i.$$

Let the  $i$ -th player in the game  $\Gamma$  have an ordering memory if for arbitrary amounts of information  $U$  and  $V$  of  $\mathcal{U}_i$  of  $V < U$  there always follows  $U \subset D(V)$ .

Theorem: If in the game  $\Gamma$  the  $i$ -th player has an ordering memory,

Card 2/3

Reduced Strategies for Games in a Generalized Form

20-5-1/54

then every mixed strategy of this player is equivalent to the  
reduced strategy corresponding to it.

PRESENTED: By A. N. Kolmogorov, Academician, March 5, 1957.

SUBMITTED: January 9, 1957

AVAILABLE: Library of Congress

Card 3/3

VOROB'YEV N.N.

16(1) P-4

PHASE I BOOK EXPLOITATION

SOV/1707

Akademiya nauk SSSR. Matematicheskiy institut

Problemy konstruktivnogo napravleniya v matematike; sbornik rabot, vyp. 1 (Problems Connected With the Construction Trend in Mathematics; Collection of Articles, Nr 1) Moscow, Izd-vo AN SSSR, 1958. 348 p. (Series: Its: Trudy, t. 52). 2,500 copies printed.

Ed.: N.A. Shanin; Resp.. Ed.: I.G. Petrovskiy, Academician; Deputy Resp. Ed.: S.M. Nikol'skiy, Professor; Tech. Ed.: R.A. Arons.

PURPOSE: This book is intended for mathematicians.

COVERAGE: The book is a collection of works presented at the seminar on mathematical logic of the Leningrad Branch of the Matematicheskiy institut imeni V.A. Steklova (Mathematical Institute imeni V.A. Steklov) of the Academy of Sciences, USSR. The articles deal primarily with problems connected with the constructive trend in mathematics. A detailed study is made of the theory of algorithms and constructive mathematical logic. The book is divided into

Card 1/5

Problems Connected With the Construction (Cont.)

SOV/1707

three main parts: I. The General Theory of Algorithms and Its Application to the Theory of Associative Calculations. II. Constructive Mathematical Logic. III. Constructive Mathematical Analysis.

TABLE OF CONTENTS:

PART I. THE GENERAL THEORY OF ALGORITHMS AND ITS APPLICATION TO THE THEORY OF ASSOCIATIVE CALCULATIONS

Nagornyy, N.M. Certain Generalized Concepts of a Normal Algorithm 7

Introduction 1. Definition of  $\sigma$ -type algorithms 2. Closure of  $\sigma$ -type algorithms 3.  $\sigma$ -type algorithms and normal algorithms 4.  $\sigma$ -type algorithms and normal algorithms (continuation) 5. Canonical  $\sigma$ -type algorithms 6. Composition of  $\sigma$ -type algorithms 7. Branching of  $\sigma$ -type algorithms 8. Recursion of  $\sigma$ -type algorithms 9.  $\sigma'$ -type algorithms 10.  $\sigma''$ -type algorithms. References

Nagornyy, N.M. On the Minimum Alphabet of Algorithms Over a Given Alphabet

66

Card 2/5

Problems Connected With the Construction (Cont.)

SOV/1707

Detlovs, V.K. The Equivalence of Normal Algorithms and Recursive Functions

75

I. Introduction 1. Brief History of the problem 2. Formulation of fundamental theorems II. Algorithms of recursive functions 3. Recursive functions 4. The algorithms of primitive recursive function 5. The algorithms of an operator of the smallest number 6. The decidability partially recursive function III. The recursiveness of algorithmic functions 7. The device of arithmetization 8. The recursiveness of a substitution 9. The recursiveness of algorithmic functions of one argument 10. The recursiveness of functions of n-arguments IV. The equivalence of Normal and recursive algorithms 11. Normal algorithms of arithmetization 12. The equivalence of normal and recursive algorithms. References

Orlovskiy, E.S. Certain Problems of the Theory of Algorithms 140

Introduction I. Construction of normal algorithms inverse to a given algorithm 1. Formulation of provable theorems 2. Construction of unknown algorithms 3. Proof of theorem 2 II. Construction of a universal algorithm system 4. A universal algorithm system 5. Fundamental lemmas 6. Proof of fundamental lemmas. References

Card 3/5

Problems Connected With the Construction (Cont.) SOV/1707

Tseytin, G.S. Associative Calculation With the Unsolvable Problem  
of Equivalence

172

PART II. CONSTRUCTIVE MATHEMATICAL LOGIC

Vorob'yev, N.N. A New Algorithm of Deducibility in Constructive  
Proposition Calculus

193

Introduction 1. Deducibility from hypothesis 2. Normal  
formulas 3. Deduction of conclusions 4. Properties of deduc-  
tions of conclusions 5. The connection between deducible for-  
mulas and deducible conclusions 6. Deducibility algorithm for  
normal conclusions 7. Examples.. References

Shanin, N.A. On the Constructive Meaning of Mathematical  
Reasoning

226

1. Constructive mathematical objects 2. Historical informa-  
tion. Critique of S.C. Kleene's theory 3. Fundamental logico-  
mathematical languages 4. Algorithms of the behavior of a con-  
structive problem 5. An algorithm for deciphering elementary  
formulas 6. On the meaning of supporting formulas 7. Some in-  
formation from the constructive theory of sets 8. Certain ex-  
tensions of fundamental logicomathematical languages

Card 4/5

Problems Connected With the Construction (Cont.)

SOV/1707

PART III. CONSTRUCTIVE MATHEMATICAL ANALYSIS

Markov, A.A. On Constructive Functions

315

Introduction 1. Recursive functions with rational values  
2. Regularly converging sequences 3. Constructive real  
numbers 4. Constructive sequences of real numbers 5. Con-  
structive functions of a real variable. References

AVAILABLE: Library of Congress

Card 5/5

LK/ad  
6-15-59

SOV/52-3-3-4/8

**AUTHOR:** Verob'yev, N. N.**TITLE:** Equilibrium Points in Bimatrix Games (Situatsii ravnovesiya v bimatrixnykh igrakh)**PERIODICAL:** Teoriya veroyatnostey i yeye: primeneniya, 1958, Vol 3, Nr 3, pp 318-331 (USSR)**ABSTRACT:** An algorithm for computing all equilibrium points (situations) for the case of the bimatrix (i.e., the finite 2-person, non-cooperative, non-zero-point sum) games ( $\Gamma$ ) is described. The problem of such a game can be represented as a combination of 2 matrices  $A$  and  $B$ , both of the same form:

$$A = \|a_{ij}\|, \quad B = \|b_{ij}\| \quad (i = 1, \dots, m; j = 1, \dots, n).$$

The following notations are used:  $M_i$  - i-row of the matrix  $M$ ,  $M_{\cdot j}$  - j-column,  $M^T$  - transformation into  $M$  matrix,  $M_+$  - the matrix obtained from the matrix  $M$  by adding to the right side a column  $M_{\cdot 0}$ , composed of units,  $J_m$  - m-vector with unit components,  $O_m$  - m-vector with zero components,  $E_m$  - unit matrix of  $m$  order. "Pure

Card 1/6

SOV/52-3-3-4/8

## Equilibrium Points in Bimatrix Games

"strategy" of first order - i rows of matrix A and B (j columns - 2nd order), (i, j) - situations in pure strategy,  $a_{ij}$ ,  $b_{ij}$  - success of the first or 2nd order in the situation (i, j) respectively.  $s_k$  - population of k k-vectors:  $Z = (z_1 \dots z_k)$ ,  $z_p \geq 0$ , ( $p = 1, \dots, k$ ) and  $\sum_{p=1}^k z_p = 1$ .

"Strategy of first player" - every m-vector  $X = (x_1, \dots, x_m) \in S_m$  (2nd player - n-vector  $Y = (y_1, \dots, y_n) \in S_n$ ). Situation of game  $\Gamma$  - pair of vectors  $(X, Y)$ , where  $X \in S_m$ ,  $Y \in S_n$ . Success in the situation  $(X, Y)$  -  $XAY^T$  (1st player),  $XBY^T$  (2nd player). Situation in equilibrium - situation  $(X, Y)$  when  $XAY^T \geq X^*AY^T$ ,  $XBY^T \geq X^*BY^T$  for any strategy  $X^*$  or  $Y^*$  of the 1st or 2nd player.  $S_\Gamma$  - population of all the strategies. For  $(X, Y) \in S_\Gamma$ :

$$XAY^T \geq X_i Y^T \quad (i = 1, \dots, m),$$

$$XBY^T \geq X_j Y^T \quad (j = 1, \dots, n) \quad \text{is required. The}$$

Card 2/6

SOV/52-3-3-4/8

## Equilibrium Points in Bimatrix Games

strategy  $X$  of the 1st player is in equilibrium when  $(X, Y) \in \mathcal{G}_r$ . It can be stated that the population  $\mathcal{G}(X)$  and  $\mathcal{G}(Y)$  of the strategies in equilibrium of the 1st ( $X$ ) and 2nd ( $Y$ ) players is non-void, convex, closed and limited (Lemma, para 4). Or, if  $\mathcal{M}$  is a population of the strategies in equilibrium of the 2nd order, the population  $\mathcal{G}(\mathcal{M}) = \bigcap_{Y \in \mathcal{M}} \mathcal{G}(Y)$  is convex, closed and limited (Ref.3). If

$\mathcal{R} = (R_1 \dots R_k)$  - the population of situations in equilibrium of the 1st order strategy, i.e.  $R_\kappa = (X, Y_\kappa)$  ( $\kappa = 1, \dots, k$ ) and  $\mathcal{R} = \{R_1, \dots, R_k\} \subseteq \mathcal{G}_r$ , then, in order that

$$\bigcap_{\kappa=1}^k \mathcal{G}(R_\kappa) \neq \emptyset \quad (?)$$

it is necessary that  $\mathcal{R}$  - permissible, sub-matrix  $D$  of the

Card 3/6

SOV/52-3-3-4/8

**Equilibrium Points in Bimatrix Games**

matrix  $B$ , and the matrix  $D_+$  contain the linear independent rows (Theorem 6). When the strategy in equilibrium  $X$  and the 1st player is defined as extreme, i.e. the population of strategies  $Y_1 \dots Y_k$  of the 2nd player satisfies Eq.(21), then each player has a finite number of extreme strategies (Theorem, p 323). All the extreme strategies of the first player of the types  $X(D^*)$  and  $X(D^*, X)$  can be found. For this purpose every matrix  $D^*$  of the matrix  $B$  is listed and the vector  $X(D^*)$  (Eq.49) and the population  $X(D^*, X)$  for the 1st and 2nd types of matrices are determined respectively. Then the extreme strategies of the 1st player  $\tilde{X}$  can be found from the strategies (49), (50) and (51). The strategies of the 2nd player,  $\tilde{Y}$  are found in a similar way. Both populations  $\tilde{X}$  and  $\tilde{Y}$  are non-void and the game  $\Gamma$  has at least one situation in equilibrium  $(X, Y)$ . Therefore, the populations  $\mathcal{O}(X)$ ,  $\mathcal{G}(Y)$ ,  $K(\mathcal{O}(X))$  and  $K(\mathcal{G}(Y))$  are non-void but  $K(\mathcal{O}(X)) \subset \tilde{Y}$  and  $K(\mathcal{G}(Y)) \subset \tilde{X}$ . Therefore,

Card 4/6

SOV/52-3-3-4/8

## Equilibrium Points in Bimatrix Games

$$\mathcal{G}_r = \bigcup_{x \in \tilde{\mathcal{X}}} [x] \times \mathcal{G}(x) \quad (\text{Theorem 9}).$$

The population  $\mathcal{G}(x)$  for any  $x \in \tilde{\mathcal{X}}$  can be determined as the population  $K(\mathcal{G}(x))$  is non-void. There at least one strategy  $y \in \tilde{Y}$  for which  $(x, y) \in \mathcal{G}_r$  at all  $x \in \mathcal{X}$ . It means that in order to determine all the strategies for  $\mathcal{G}(x)$  it is sufficient that the expressions (52) and (53) are satisfied even for one  $y \in \tilde{Y}$ . If  $\mathcal{Y}$  is the population of these  $y$  for which the expressions (49), (50) for  $x \in \mathcal{X}$  are satisfied, then

$$K(\mathcal{G}(x)) \subset \mathcal{Y} \subset \mathcal{G}(x).$$

Card 5/6

SOV/52-3-3-4/8

**Equilibrium Points in Bimatrix Games**

As the population  $K(G(X))$  is finite, then  
 $G(X) = [K(G(X))]$ , thus it can be considered as fully  
representing the population  $G(X)$ . There are 3 English  
references.

SUBMITTED: March 12, 1958.

Card 6/6

VOROB'YEV, N. N. (Leningrad)

"The Adjustment of Families of Measures and Stamp Measures."

paper to be submitted for the Secnd Prague Conference on Information Theory, Statistical Decision Functions, and Random Processes - Liblice (near Prague), CSR, 1-6 June 1959

16(1)

AUTHOR: Vorob'yev, N.N.

SOV/42-14-4-2/27

TITLE: Finite Games Without Coalition

PERIODICAL: Uspekhi matematicheskikh nauk, 1959, Vol 14, Nr 4, pp 21-56 (USSR)

ABSTRACT: Games in which the player can not count upon the assistance of the partners during the game are called games without coalition.

The author gives the sketch of a closed theory of finite games without coalition. § 1. Situation of equilibrium. § 2. Matrix games. § 3. The game in extensive form. The three paragraphs are subdivided into 16 parts. There are no new results.

There are 2 figures, and 36 references, 3 of which are Soviet, 20 American, 8 French, 1 German, 1 Hungarian, and 3 English.

SUBMITTED: January 26, 1959

Card 1/1

6

16(1), 16(2)

AUTHORS: Vorob'yev, N.N., and Romanovskiy, I.V. SOV/43-59-7-6/17

TITLE: Games With Prohibited Situations (Igry s zapreshchennymi  
situatsiyami)

PERIODICAL: Vestnik Leningradskogo universiteta, Seriya matematiki,  
mekhaniki i astronomii, 1959, № 7(2), pp 50-54 (USSR)

ABSTRACT: The authors consider games with prohibited situations. It is  
stated that if such a game has more than one value, then the  
game always has to be repeated with the probability 1. A  
necessary but not sufficient criterion for the existence of  
several values is proposed. The results overlap with those  
of Ref 3.  
There are 3 American references.

SUBMITTED: December 3, 1958

Card 1/1

VOROB'YEV, N.N.

Coalition games. Dokl.AN SSSR 124 no.2:253-256 Ja '59.  
(MIRA 12:1)

1. Predstavлено академиком V.I. Smirnovym.  
(Games of strategy (Mathematics))

VOROB'YEV, N.N.

[Randomized joint actions in finite games; author's abstract of his dissertation presented in candidacy for the degree of Doctor of Physics and Mathematics] Randomizirovannye sovmestnye deistvия v konechnykh igrakh; avtoreferat dissertatsii na sciskanie uchennoi stepeni doktora fiziko-matematicheskikh nauk. Leningrad, Akad. nauk SSSR, 1960. 12 p.  
(MIRA 15:2)

(Games, Theory of)

VOROB'YEV, N. N.

<p>PAGE 1 BOOK EXPLANATION 507/931</p> <p>Sovetskoye po Stocil voprosam po teorii veroyatnostey i matematicheskoy statistike. Izdanie, 1954 Teoriya Veroyatnostey i Statistika. No. 55 (All-Union Conference on the Statistics, Izhevsk, 10-15 September 1953). Ed. by V. N. Vorob'yev. 1954 Theory of Probability and Mathematical Statistics. Held in Izhevsk, 1953. (Russian) September, 1953. (Russian) Izd-vo Akad. Nauk SSSR. 251 p. Birots. slip inserted. 2,500 copies printed.</p> <p>Sponsoring Agency: Akademicheskaya kniga.</p> <p>Editorial Staff: G. A. Adadurovyan, B. V. Gerasimov, Yu. A. Dzhaparidze, I. M. Israilev, and S. N. Tikhonov; Ya. A. of Publishing House: A. N. Slepnev; Tech. Eds: N. N. Vorob'yev, S. N. Tikhonov.</p>
<p>PURPOSE: The book is intended for mathematicians.</p>
<p>CONTENT: The book contains 12 articles submitted to the Conference and dealing with the theory of probability and mathematical statistics. Some of the articles are the papers read at the Conference and edited for publication, while others article the papers read at the Conference and edited for publication, while others article the theses of papers which appeared, or are scheduled to appear, wholly or in part. In other publications in one case, such publications are included, and the list of the papers whose contents were published elsewhere is included. The articles consist of theses of publication are collected. Theoretical articles contain theories of wave scattering, spectral factorization, numbers, prime and certain functions, and discusses the theorems of Shabatov, Mityagin, Chihara, and certain others. Theoretical articles, and American. Such items as the method of least squares, the elements of Markov's and diffusion processes, measures and their applications, a scheme of Kolmogorov's experiments, Markov-type paths, statistical methods, and certain problems of radio electronics, and electronic circuits are also discussed. No personalities are mentioned. References accompany some of the articles.</p>
<p>BIBLIOGRAPHY: 1. On a Property of Asymptotic Laws. (These) 22 2. Class. Limit Theorem for Random Variables on Compact Abelian Groups. (These) 22 3. Note. V. F. On a Central Limit Theorem for <math>\alpha</math>-Dependent Variables 22 4. Probabilistic, V.A. Limit Theorem for Determinants Matrices' Choleski (These) 22 5. Lepetov, N. N. Modern State of the Theory of Game and Competitive Games. 40 6. Kambler, I. A., and I. N. Dzhaparidze. Some Problems in the Theory of Markov Chains. (These) 22 7. Lepetov, N. N. Limit Theorem for Large Deviations in the Theory of Competitive Matrices' Choleski 22 8. Stoyanov, Volodymyr. Local Limit Theorem for Probabilities of Large Deviations - Generality of Grenier's Condition 22 9. Poroshenko, B. G. On Constructive Proof of the Basic Element's Theorem for a Single Matrix Case. (These) 22 10. Dzhaparidze, Yu. I. Some Properties of Stochastic Point Processes 22 11. Imchenko, A. N. Random Measures and Their Applications in the Theory of Stochastic Processes and Statistics. (These) 22 12. Chentsov, N. N. Probabilistic Measures and the Theory of Random Functions 22 13. Adadurovyan, B. V. On Evaluation of a Distribution Function Based on the Method of a Tailancy Process 22 14. Lepetov, N. N. On the Problem of a Random Walk. (These) 22</p>

VOROB'YEV, N.N. (Leningrad)

Disjoint strategies. Teor. veroiat. i ee prim. 5 no. 4:457-  
459 '60. (MIRA 13:12)  
(Games of strategy (Mathematics))

VOROB'YEV, N.N.; FADDAYEV, D.K. (Leningrad)

Continualization of conditional probabilities. Teor. veroiat. i  
ee prim. 6 no.1:116-118 '61. (MIRA 14:6)  
(Probabilities)

34777  
 S/052/61/006/004/002/005  
 C111/C222

16,6100

AUTHOR: Vorob'yev, N.N.

TITLE: An analytic characterization of independence and Markov type dependence

PERIODICAL: Teoriya veroyatnostey i yeye primeneniye, v.6, no. 4, 1961,  
 422-426

TEXT: Under an n-trial ( $n \geq 2$ ) is understood a representation of a certain event as a union of n pairwise incompatible events. A function  $\psi_1$  is called a one-dimensional distribution function if

$$\psi_1(x) = \begin{cases} 0 & \text{for } x < 0, \\ x & \text{for } 0 \leq x \leq 1, \\ 1 & \text{for } x > 1. \end{cases} \quad (1)$$

A continuous function  $\psi$  of n variables is called an n-dimensional distribution function if  $\psi$  is the distribution function of such a variable  $(x_1, \dots, x_n)$  for which

$$P\left(\bigcap_{i=1}^n (0 \leq x_i \leq 1)\right) = 1 \quad (2)$$

Card 1/3

S/052/61/006/004/002/005  
C111/C222

An analytic characterization of ...

holds, and if, in addition, for arbitrary  $i = 1, \dots, n$  and  $0 \leq x_i \leq 1$   
the sum

$$\psi(x_1, \dots, x_{i-1}, x_i, x_{i+1}, \dots, x_n) + \psi(x_1, \dots, x_{i-1}, 1-x_i, x_{i+1}, \dots, x_n)$$

is a certain  $(n-1)$ -dimensional typical distribution function of  
variables  $x_1, \dots, x_{i-1}, x_{i+1}, \dots, x_n$ . The function  $\varphi = \varphi(x_1, \dots, x_n)$   
is called an  $(m_1, m_2, \dots, m_n)$  - type of dependence, if for arbitrary  
 $m_1$  - trials  $\mathcal{C}^{(i)}$  ( $i = 1, \dots, n$ ) with the outcomes  $A_1^{(i)}, \dots, A_{m_i}^{(i)}$

there exists such a  $m_1 \dots m_n$  - trial  $\mathcal{C}$  with the outcomes

$$A_{j_1}^{(1)} \cap A_{j_2}^{(2)} \cap \dots \cap A_{j_n}^{(n)} \quad (i \leq j_i \leq m_i; i = 1, \dots, n)$$

that for all possible  $j_1, \dots, j_n$

Card 2/3

S/052/61/006/004/002/005

C111/C222

An analytic characterization of ...

(3)

$$P_{\Omega}(\Lambda_{j_1}^{(1)} \cap \dots \cap \Lambda_{j_n}^{(n)}) = \varphi(P_{\Omega}(\Lambda_{j_1}^{(1)}), \dots, P_{\Omega}(\Lambda_{j_n}^{(n)}))$$

holds.

The following theorem is proven : Let (1)  $m_1, m_2, \dots, m_l > 2$ ,  $m_{l+1} = \dots = m_n = 2$  ( $0 \leq l \leq n$ ). For the function  $\varphi(x_1, \dots, x_n)$  to be an  $(m_1, m_2, \dots, m_n)$ -type of dependence of trials, it is necessary and sufficient that  $\varphi$  has the form  $x_1 \dots x_l \Psi_{n-1}(x_{l+1}, \dots, x_n)$ , where  $\Psi_{n-1}$  is a certain  $(n-1)$ -dimensional typical distribution function.

An analogous result for measures is obtained, which are Markov with respect to an arbitrary regular complex.

There are 3 Soviet-bloc references.

SUBMITTED: August 24, 1960

X

Card 3/3

VOROB'YEV, N.N. (Leningrad)

Differentiation of the strategies of positional games. Prob.  
kib. no.7-20 '62. (MIRA 15:4)  
(Games, Theory of)

VOROB'IEV, N.N. (Leningrad)

Coordinated families of measures and their extensions.  
Teor. veroiat. i ee prim. i no. 2:153-169 '62. (MIRA 15:5)  
(Topology)  
(Games, Theory of)

VOROB'YEV, N.N., red.; SHIROKOVA, S.A., red.; KRYUCHKOVA, V.N.,  
tekhn. red.

[Infinite antagonistic games] Beskonechnye antagonistiches-  
kie igry. Moskva, Fizmatgiz, 1963. 503 p. (MIRA 16:12)  
(Games, Theory of)

VOROB'YEV, N.N. (Leningrad)

Topologization of a set of interior coordinated families of measures. Teor. veroiat. i ee prim. 8 no.4:444-451 '63.

Markovian measures and Markovian extensions. Ibid.:451-462  
(MIRA 17:1)

VOROB'YEV, N.N.

Extremum algebra of matrices. Dokl. AN SSSR 152 no.1:24-27 S  
'63. (MIRA 16:9)

1. Leningradskoye otdeleniye Matematicheskogo instituta im.  
V.A.Steklova AN SSSR. Predstavлено академиком V.I.Smirnovym.  
(Matrices)

VOROB'YEV, Nikolay Nikolayevich; KISUN'KO, V.G., red.

[Fibonacci's numbers] Chisla Fibonachchi.. Izd. 2., dop. Mo-  
skva, Nauka, 1964. 69 p. (Populiarnye lektsii po ma-  
tematike, no. 6) (MIRA 17:11)

ACCESSION NR: AP4016033

8/0052/64/009/001/0053/0071

AUTHOR: Vorob'yev, N. N. (Leningrad)

TITLE: Families of random passages

SOURCE: Teoriya veroyatnostey i yeye primeneniya, v. 9, no. 1, 1964, 53-71

TOPIC TAGS: random passage, game theory, strategy, probability, measure, coalition, projection, conditional measure, conditional distribution, passage probability, interior measure, generalized measurable space

ABSTRACT: Let  $S_A = \prod_{a \in A} S_a$  where  $M$  is a finite set to each element,  $a$ , of which is associated a set  $S_a$ . The elements of  $M$  are called players, and the elements of  $S_A$  are called strategies of the coalition  $A$ , while the elements of  $S_a$  are called the strategies of player  $a$ . The probabilities with which  $A$  chooses its pure strategies are given by  $\mu_A$ . Player  $a$ 's strategies are determined by the projection  $\mu_a$  of  $\mu_A$  on  $S_a$ . Given that player  $a$  chooses  $S_a$ , the remaining members of  $A$  are governed by the conditional measure  $\mu_A(\cdot | S_a)$ , which must be defined even if

Card 1/2

ACCESSION NR: AP4016033

$\mu_A(s_a)$  = 0. This conditional measure, not being determined by  $\mu_A$ , must be prescribed additionally. It must, however, be insured that such prescriptions are not contradictory. Conditions are given to verify this latter. Orig. art. has: 39 formulas.

ASSOCIATION: none

SUBMITTED: 300ct62

ENCL: 00

SUB CODE: MA

NO REF Sov: 004

OTHER: 000

Card 1 2/2

VORON'YEV, N.N.

A constructive propositional calculus with strong negation.  
Trudy mat. i nat. 72:19.-227 '64. (MIRA 18:9)

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860820015-0

SOURCE: AN SSE, Izvestiya, Tekhnicheskaya Kibernetika, 1971

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860820015-0"

VOROB'YEV, N.P.

Vertical-speed formula of the pilot-balloon. Meteor. i  
gidrol. no.12:33-36 D '63. (MIRA 17:3)

1. Minskiy politekhnicheskiy institut.

ACC NR: AP7007607

SOURCE CODE: UR/0114/66/000/008/0040/0042

VOROB'YEV, N. P., PUPKO, T. Yo."Hydraulic Turbine Laboratory Of Khar'kov Turbo-Generator Plant Imoni S. N. Kirov"

Energomashinostroyeniye, No 8, 66, p 40-42

TOPIC TAGS: turbine, electric generator, scientific organization, laboratory equipment  
Abstract: A description of the facilities and equipment available at the Hydraulic Turbine Laboratory of the Khar'kov Turbo-Generator Plant Imeni Kirov. The laboratory is placed in a separate building whose main hall contains three power and two cavitation test stands, plus a stand for testing hydraulic seals. A smaller hall contains a control stand, the mechanical shops, a switching station, strength testing apparatus and a number of other shops. Cross sectional diagrams are presented of the following test stands: cavitation - power stand 250 - for testing of models with turbine wheel diameters up to 250 millimeters. A closed cycle test stand with water recirculated by centrifugal pump; open power testing stand 460 - for testing of turbines up to 460 millimeters diameter with four meter head and water flow rate 1.5 M<sup>3</sup>/ sec. Open supply and receiving water reservoirs are used; horizontal machine testing stand - designed for power and cavitation tests of models of horizontal and vertical turbines under conditions near natural conditions as far as cavitation coefficient is concerned at pressure heads up to 4 meters of water and water flow rates of 3600 liters per second; cavitation test stands 100 and 150 -

Card 1/2

UDC: 061.6:621.224XTG

0114610-60

ACC NR: A7007607

designed for determining cavitation characteristics and flow studies around models of turbine blade wheels up to 460 millimeters in diameter for vertical turbines at near natural pressures. The dynamic and strength testing stands are designed for investigation of static and dynamic stresses, frequencies and oscillation forms of parts of hydraulic turbines. The control stand is designed for testing hydraulic turbine control systems and elements of those systems, as well as for testing servo motors and turbine mountings.

Orig. art. has: 4 figures. [JPRS: 38,330]

Card 2/2

VOROB'YEV, N.S. (Ivanovo)

Graphic solution of geometry problems. Mat. v shkole no.2:  
44-49 Mr-Ap '59. (MIRA 12:6)  
(Geometry--Graphic methods)

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860820015-0

VOROB'EV, N.S., (Ivanovo).

Solving stereometrical problems using the method of rectangular projections. Mat v shkole no.3:33-42 Ky-Je '53.  
(MLRA 6:6)  
(Mensuration)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860820015-0"

VOROB'YEV, N.V., doktor tekhn. nauk; GLUSHKOV, G.A.

Toothed chains and their wear resistance. Mashinostroyitel'  
no. 7834-35 Jl '64. (MIRA 17:8)

VCROB'YEV, N.V., doktor tekhn.nauk; GLUSHKOV, G.A.

Profiles of sprocket teeth for driving silent chains.  
Mashinostroitel' no.11:27-28 '65.

(MIRA 18:11)

VOROB'YEV, Nikolay Vasil'yevich, doktor tekhn. nauk, prof.; BARANOV,  
G.G., doktor tekhn. nauk, prof., retsenzent; BYSTRITSKAYA,  
V.V., red. izd-va; CHERNOVA, Z.I., tekhn. red.

[Chain transmissions] Tsepnye peredachi. Izd.3., ispr. 1  
dop. Moskva, Mashgiz, 1962. 238 p. (MIRA 15:4)  
(Link-beltting)

VOROB'YEV, N.V.

Chromatographic method of quantitative analysis of a mixture of  
higher fatty acids with the use of the MF-4 microphotometer. Masl.-  
zhir.prom. 29 no.11:22-26 N '63. (MIRA 16:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut maslichnykh i  
efiromaslichnykh kul'tur.

VOROB'YEV, M.V., professor, doktor tekhnicheskikh nauk; KIFER, L.G.,  
zasluzhennyy deyatel' nauki i tekhniki; professor, doktor tekhnicheskikh nauk, redaktor; VIDOV, S.S., redaktor; MODEL', B.I.,  
tekhnicheskiy redaktor.

[Chain drive] TSeplnye peredachi. Pod red. L.G.Kifera. Moskva, Gos.  
nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1946. 143 p.  
(Power transmission) (MLRA 8:1)

VOROB'EV, N. V.

TSeptye peredachi. Izd. 2. Moskva, Mashgiz, 1951. 188 p.

Chain drives.

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library  
of Congress, 1953.

Vorob'yev, N V

Kettenträte. 2. verb. und ergänzte Aufl. des sovjetischen Originals. Berlin,  
Technik, 1953.

226 p. illus., diagrs., tables.

Translation from the Russian, "Tsentrnye Peredachi," Izd. 2, Moscow, 1951.  
Added T.-P in Russian.

N/5  
7-1.988  
.V91  
1953

KRUTIKOV, I.P., doktor tekhn. nauk, prof.; VOROB'YEV, N.V.,  
doktor tekhn. nauk, prof., retsenzent; BULATOV, S.I.,  
inzh., red.

[Excavators] Ekskavatory. Moskva, Mashinostroenie, 1964.  
391 p. (MIRA 17:10)

VOROB'YEV, N.V., zasluzhennyj deyatel' nauki i tekhniki Udmurtskoy ASSR.;  
IVASHKOV, I.I., kand.tekhn.nauk; FILIMONOV, B.N., inzh.

Improving the quality of chain transmissions. Vest.mashinistr.  
43 no.5:13-17 My '63. (MIRA 16:5)  
(Chains)

VOROB'YEV, N.V., doktor tekhn. nauk; IVASHKOV, I.I., kand. tekhn. nauk

Improve the technical level of manufacture and use of chains  
in the national economy. Mashinostroitel' no.5:38-39 My '63.  
(MIRA 16:7)

(Chains)  
(Machinery industry--Management)

VOROB'YEV, Nikolay Yakovlevich; IVANOV, M.I., red.; ZUBRILINA, Z.P.,  
tekhn.red.

[Magician of the fields; a study] Kudesnik polei; ocherk.  
Moskva, Gos.izd-vo sel'khoz.lit-ry, 1959. 38 p. (MIRA 13:4)  
(Mal'tsev, Terentii Semenovich)

COUNTRY : USSR  
CATEGORY : Weeds and Their Control

ABS. JOUR. : RZBiol., No. 12, 1958, No. 53938

AUTHOR : Yukhno, G.Ya.; Vorob'yev, N.Yo.  
INST. : Not given  
TITLE : Chemical Weeding

ORIG. PUB. : Agrobiologiya, 1957, No. 2, 132-133

ABSTRACT : At Izmail'skiy Experimental Field (Odesskaya Oblast) and under industrial production conditions in the kolkhozes and sovkhozes of Artsizskiy Rayon chemical weeding with 2,4-D herbicide sharply decreased the weed choking in the fields and boosted the grain crop yields. A water sol. of the herbicide was sprayed in dosages of 0.6, 0.8 and 1.2 kg/ha of active matter. --T.I. Rivkind

CARD: 1/1

VOROB'YEV, N. Ye., Cand Med Sci -- (diss) "Vegetative components of a conditioned-reflex motor act in patients with brain tumor." Smolensk, 1960. 23 pp; (Smolensk State Medical Inst); 270 copies; price not given; (KL, 17-60, 168)

VOROB'YEV, N.Ye. [Vorobiov, M.IE.]

Some biological properties of biennial weeds in the steppe of the  
Danube Valley. Ukr. bot. zhur. 17 no.5:43-49 '60. (MIRA 13:12)

1. Izmaylovskaya ispytatel'naya stantsiya, selo Mirnopol'ye  
Odesskoy oblasti.  
(Ukraine, Western--Weeds)                   (Biennals (Plants))

BLAZHEVSKIY, Ye.V., dvazhy Geroy Sotsialisticheskogo Truda; VOVCHENKO, I.V., kand. sel'khoz. nauk., zasl. agronom Ukr.SSR; VOBOR'YEV, N.Ye., st. nauchn. sotr.; GESHELE, E.E., doktor biol. nauk, prof.; ZUBRITSKIY, A.A., agronom; KISEL'GOF, Z.S., inzh., zasl. mekhanizator sel'skogo khoz. Ukr.SSR; KLYUCHKO, P.F., kand. sel'khoz. nauk; KORCHAGIN, A.Ye.; LEBEDEV, Ye.M., st. nauchn. sotr.; NASYPAYKO, V.M., kand. sel'khoz.nauk; PIKUS, G.P., kand. sel'khoz.nauk; REKACH, V.N., doktor sel'khoz. nauk, prof.; SPIVAK, I.I., zootehnik; TEMCHENKO, L.V., kand. sel'khoz. nauk; FEDULAYEV, A.A., agronom; YAKOVENKO, V.A., kand. tekhn.nauk; KITAYEV, I.A., kand. sel'khoz. nauk, red.; MUSIYKO, A.S., akademik, red.; VENNITSKIY, S.P., red.; MOLCHANOVA, T.N., tekhn. red.

[For high corn yields] Za bol'shiu kukuruzu. [By] E.V. Blazhevskii i dr. Odessa, Odes'skoe knizhnoe izd-vo, 1962.  
173 p. (MIRA 16:7)

1. Zven'yevoy kolkhoza im. Gor'kogo Kotovskogo rayona na Odesshhchine (for Blazhevskiy). 2. Glavnyy agronom sovkhoza "Bessarabskiy" (for Korchagin). 3. Ukrainskaya akademiya sel'skokhozyaystvennykh nauk (for Musiyko).  
(Ukraine—Corn (Maize))

VOROB'YEV, Nikolay Yakovlevich; ZHURAVSKIY, Vasiliy Aleksandrovich;  
IVANOV, N.I., red.; TRUKHINA, O.N., tekhn. red.

[Creator of golden ears; a sketch] Tvorets zolotykh kolos'yev;  
ocherk. Moskva, Izd-vo sel'khoz.lit-ry, zhurnalov i plakatov,  
1961. 47 p. (MIRA 15:1)

(Grain)

VOROB'YEV, N.Ye.

YUKHNO, G.Ya., kandidat sel'skokhozyaystvennykh nauk; VOROB'YEV, N.Ye.;  
FILIP'YEV, I.D.

Chemical weed control in fields. Agrobiologija no.2:132-133 Mr-Ap  
'57. (MLRA 10:5)

1.Izmail'skoye opytnoye pole.  
(Odessa Province---Weeds)  
(Herbicides)

VOROB'YEV, N.Ye., kand. med. nauk

Rare type of a knife wound of the head. Trudy SMI 17:18-20 '63.  
(MIRA 18:1)

1. Iz kafedry fakul'tetskoy khirurgii (zav. kafedroy - prof. S.M. Nekrasov) Smolenskogo gosudarstvennogo meditsinskogo instituta.

VOROB'YEV, N.Ye.; DZYUBA, N.P.

Polarographic method for the quantitative determination of cardiac glycosides. Farmatsev.zhur. 19 no.1:18-22 '64.

(MIRA 18:5)

1. Khar'kovskiy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut.

MARGOLIN, G.S., prof.; VOROB'YEV, N.Ye., kand. med. nauk

Surgical treatment of actinomycosis of the brain. Trudy SMI 17:  
(MIRA 18:1)  
10-17 '63.

1. Iz kafedry nervnykh bolezney (zav. - prof. G.S. Margolin) i  
kafedry fakul'tetskoy khirurgii (zav. - doktor med. nauk P.P.  
Alekseyev) Smolenskogo gosudarstvennogo meditsinskogo instituta.

LEBEDEV, Yefim Mikhaylovich [Lebedev, IU.M.], nauchnyy sotr.;  
VOROB'YEV, Nikolay Yevgen'yevich [Vorobiov, M.], nauchnyy  
sotr.; VINITSKIY, S.[Vinnyts'kyi, S.]., red.; MOLCHANOV, T.,  
tekhn. red.

[Over-all mechanization of crop management] Kompleksna mekha-  
nizatsiya dohliadu za posivamy. Odessa, Odes'ke knyzhkove vyd-  
vo, 1959. 30 p.  
(MIRA 15:7)

1. Izmayl'skaya opytnaya stantsiya Vsesoyuznogo nauchno- issle-  
dovatel'skogo instituta kukuruzy (for Lebedev, Vorob'yev).  
(Ukraine—Corn (Maize)) (Agricultural machinery)

DOLGOPOLOV, N.N.; SHCHERBAKOV, D.I., akademik, otvetstvennyy redaktor;  
BELOV, N.V., akademik, redaktor; VOROB'YEV, O.A., redaktor; CHUKHROV,  
P.V., redaktor; KUN, N.P., redaktor Izdatel'stva; ASTAF'YEVA, G.A.,  
tekhnicheskiy redaktor

[Problems in geochemistry and mineralogy] Voprosy geokhimii i  
mineralogii. Moskva, 1956. 174 p. (MLRA 9:7)

1. Chlen-korrespondent AN SSSR (for Chukhrov). 2. Akademiya nauk  
SSSR. Otdeleniye geologo-geograficheskikh nauk.  
(Geochemistry) (Mineralogy)

VOROB'YEV, O.M., inzh.

Reconditioning the scrapers of "cleaning machines" by hard facing.  
Stroi. trupobrov. 7 no.6:18 Je '52  
(Mka 15:7)

.Trest po stroitel'stvu Gazopriyeyov Glavnoyepravoistroya Ministerstva  
stroitel'stva predpriyatii neftyanye promyshlennosti SSSR.  
(Hard facing) (Scrapers)

10(7)

AUTHOR:

Vorob'yev, O. S.

SOV/2o-122-5-8/56

TITLE:

An Approximated Analytical Representation of Plane Supersonic Flows of a Gas (Priblizhennoye analiticheskoye predstavleniye ploskikh sverkhzvukovykh tekhnicheskikh gaza)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 5,  
pp 778 - 781 (USSR)

ABSTRACT:

The equations of motion for the supersonic flows of a compressed gas have the shape

$$\frac{\partial^2 \psi}{\partial \lambda \partial \mu} = F(t) \left( \frac{\partial \psi}{\partial \lambda} + \frac{\partial \psi}{\partial \mu} \right), \quad \frac{\partial^2 \psi}{\partial \lambda^2} = -F(t) \left( \frac{\partial \psi}{\partial \lambda} + \frac{\partial \psi}{\partial \mu} \right).$$

Here  $\psi$  denotes the flow function,  $\psi$  - the velocity potential;  $\lambda$  and  $\mu$  - characteristic variables which are connected with the angle of inclination  $\theta$  of velocity and with the variable  $t$  by the relations  $t-\theta = 2\lambda$ ,  $t+\theta = 2\mu$ . A system of equations for the connection between the variable  $t$  and velocity is given. Next,

Card 1/4

An Approximated Analytical Representation of Plane  
Supersonic Flows of a Gas

SOV/2o-122-5-8/56

a solution ansatz is written down for the initially given system of equations. By suitable selection of a random constant the course of the curve corresponding to the solution can be selected in such a manner that it has one or more points of intersection with the exact curve (either one point of intersection and one point of contact at  $M \rightarrow \infty$  or two points of intersection or one point of contact at  $M = 4.57$ , or no point in common at all). Next, the system of equations for the special case of an adiabatic flow is integrated, and the solution thus obtained is explicitly written down. By using the Bernoulli (Bernulli)-equation an expression for pressure is easily obtained. By suitable selection of the random constant a contact of the fourth order of the approximated curve with the curve of the adiabatic variation of pressure is obtained. Also the following more general conclusion may be drawn: An extensive class of the initially assumed functions  $F(t)$  with a random constant permits the determination

Card 2/4

An Approximated Analytical Representation of Plane  
Supersonic Flows of a Gas

SOV/2o-122-5-8/56

of the function  $p(q)$ , which has a contact of the fourth order with the adiabatic function  $p(q)$ .  $p$  denotes pressure and  $q$  the ratio between gas density and the density in the stagnation point (plotnost' tormozheniya). The general solution of the system of equations initially written down depends essentially on the form of the function  $F(t)$ . A diagram shows the relative deviations of the approximated function  $f$  from the adiabatic function for various values of the random constant. The approximation gives a very accurate result for  $M > 2.5$ . Next, calculations for the following boundary value problems are outlined: Goursat (Gursa)-problem, Cauchy (Koshi)-problem, problem with assumed conditions on the characteristic and on the free surface, problem with assumed conditions on the characteristic and on a rectilinear wall. There are 2 figures and 4 Soviet references.

Card 3/4

An Approximated Analytical Representation of Plane  
Supersonic Flows of a Gas

SOV/20-122-5-8/56

PRESENTED: June 3, 1958, by L.I.Sedov, Academician

SUBMITTED: May 16, 1958

Card 4/4

L 20747-66 EWT(m)  
ACC NR: AP6007766

SOURCE CODE: UR/0205/66/006/001/0109/0111  
24  
23

AUTHOR: Strelkov, R. B.; Vorob'yev, O. Ya.

ORG: Institute of Experimental Pathology and Therapy AMN SSSR, Sukhimi (Institut eksperimental'noy patologii i terapii AMN SSSR)

TITLE: The concentration of oxygen in tissues during barbaryl anesthesia

SOURCE: Radiobiologiya, v. 6, no. 1, 1966, 109-111

TOPIC TAGS: irradiation resistance, gamma irradiation, irradiation damage, sodium amyta

ABSTRACT: The effect of barbaryl (sodium amyta) on the O<sub>2</sub> concentration in the spleen, liver, and brain of white rats was investigated by the polarographic method. The experiments were performed on 45 white male rats weighing between 185 and 240 g. A 0.2-mm platinum electrode (the cathode) was inserted directly into the tissues of the organ under investigation, and a silver chloride electrode (the anode) was fastened to the tail of the animal. A 75-mg/kg dose of barbaryl was injected intraperitoneally. When, at the end of the experiment, the animals were killed, the oxygen content in the spleen dropped sharply. Data on O<sub>2</sub> changes in the spleen of

UDC: 628.58

Card 1/2

L 20747-66  
ACC NR: AP6007766

white rats receiving protective dosages of barbamyl and serotonin are presented in tabular form. Barbamyl brought about an increase in oxygen content in the spleen while serotonin significantly reduced it. Barbamyl had virtually no impact on oxygen content in liver and brain tissue. Data on the anti-irradiation effect of barbamyl (75 mg/kg) are presented in a table. The data show that 13.3% (4 out of 30) of the experimental animals survived 30 days following exposure to 850 rad of gamma irradiation. It is concluded that barbamyl's protective action is independent of the "oxygen effect" in spleen tissue. It is suggested that the protective effect is a result of barbamyl's effect on the central nervous system. Orig. art. [14] has: 3 tables.

SUB CODE: 06/  
ATD PRESS: 4224

SUBM DATE: 26Jun64/

ORIG REF: 007/

OTH REF: 011

Card 2/2 Jb

L 17297-66 EWT(m)

ACC NR: AP602949 (A) SOURCE CODE: UR/0219/66/062/008/0049/0051

AUTHOR: Strelkov, R. B.; Vorob'yev, O. Ya.

30  
29  
B

ORG: Institute of Experimental Pathology and Terapy, AMN SSSR, Sukhumi  
(Institut eksperimental'noy patologii i terapii AMN SSSR)

TITLE: Investigation of the oxygen condition in the brain tissue of albino rats  
after injection of radioprotective agents

SOURCE: Byulleten' eksperimenta'noy biologii i meditsiny, v. 62, no. 8,  
1966, 49-51

TOPIC TAGS: polarography, brain tissue, radioprotective agent, serotonin,  
cystamine, oxygen

ABSTRACT: Experiments using polarography have been carried out for studying  
the effect of sulfur-containing radioprotective agents, cystamine (100 mg/kg)  
and indolylalkylamine serotonin (20 mg/kg), on the oxygen tension in the functioning  
brain tissue of albino rats with implanted platinum electrodes lystamine

Card 1 / 2

UDC: 615.777.8-031:611.81-092:/612.82-612.26

L 47297-66

ACC NR: AP6028949

reduced pO<sub>2</sub> in the brain tissue by 7.3%, and serotonin increased it by 15.2%. It is presumed that serotonin produces a specific effect on the metabolic processes in the brain tissue, which may be of some importance in the radio-protective mechanism of this agent. A difference has been noted in the protective mechanism of agents containing sulphydryls and those containing indolyl-alkylamines. The paper was presented by V. V. Parin, Active Member of AMN SSSR, on 7 October 1964. Orig. art. has: 1 table. [Based on authors' abstract]

[NT]

SUB CODE: 06 / SUBM DATE: 07Oct64 / ORIG REF: 010 / OTH REF: 008 /

ms  
Card 2/2

VOROB'YEV, O.Ye.; SOKOLOVA, N.I.; MEL'NIKOVA, V.I.; SHABAROVA, Z.A.;  
PROKOF'YEV, M.A.

Dinucleoside phospho-(P<sub>m</sub>-N)-amino acid. Dokl. AN SSSR 166  
no.1:95-98 Ja '66.  
(MIRA 19:1)

1. Moskovskiy gosudarstvennyy universitet. Submitted April 21,  
1965.

VOROB'YEV, O.Ye.; SHABAROVA, Z.A.; PROKOF'YEV, M.A.

Synthesis of nucleotidyl(P-II)-phenylalanine by the pyrophosphate technique. Dokl. AN SSSR 158 no.1:143-146 R-0 '64  
(MIRA 17:8)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.  
Predstavleno akademikom A.N.Belozorskim.

VOROB'YEV, O.Ye.; SHABAROVA, Z.A.; PROKOF'YEV, M.A.

Synthesis of nucleotidyl(5' N)phenylalanine by the pyrophosphate  
method. Zhur.ob.khim. 34 no.1:359-361 Ja '64. (MIRA 17:3)

1. Moskovskiy gosudarstvennyy universitet imeni V.M.Lomonosova,

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860820015-0

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860820015-0"

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860820015-0

Case 12

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED BY SOURCE AT THIS TIME

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860820015-0"

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860820015-0

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860820015-0"

VOROB'YEV, O.Ye.; SHABAROVA, Z.A.; PROKOF'YEV, M.A.

Comparative study of the hydrolytic stability of nucleotidyl-(P-N)-phenylalanine. Vest. Mosk. un. Ser. 2: Khim. 19 no.6:  
66-71 N-D '64.  
(MIRA 18:3)

1. Kafedra organicheskoy khimii Moskovskogo universiteta.

ZEMLYANOVSKIY, D.; PAVLENKO, V.; VOROB'YEV, P.

Improving the inertial characteristics of a ship by separate arrangement of rudders. Rech. transp. 24 no.7:48 '65.

(MIRA 18:8)

1. Novosibirskiy institut inzhenerov vodnogo transporta.

VOROB'YEV, P.

Vorob'yev, P. - "The agriculture of Bashkiria during the Patriotic War and the postwar Five-Year Plan", (Authors listed in index), In the collection: Tridtsat' let Sov. Bashkiri, Ufa, 1949, p. 194-216.

SO: U-411, 17 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 20, 1949).

VOROB'YEV, P. (g. Kopeysk, Chelyabinskaya oblast')

In a progressive mine in the Southern Urals. Okhr.truda i sots.strakh.  
no.4:35-36 O '58.  
(Kopeysk--Mining engineering--Safety measures)

VOROB'YEV, P.

Rolling mills are put in operation. MTO 3 no. 3:30-31 Mr '61.  
(MIRA 14:3)

(Rolling mills)

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860820015-0

VOROB'YEV, P.

Energy and perseverance are most important. Okhr. truda. i  
sets. strakh. 4 no. 2:10-11 F '61. (MIRA 14:2)  
(Magnitogorsk—Steel industry—Hygienic aspects)

APPROVED FOR RELEASE: 03/14/2001

CIA-RDP86-00513R001860820015-0"